

Query/Command : HIS

File : PLUSPAT


SS Results

1	2	(1) ..FAM US20040190956/PN
2	1	..CITF US20040190956/PN
3	1	..CITF US20040190956/PN

Search statement 4


Query/Command : PRT MAX SET

1 / 2 PLUSPAT - ©QUESTEL-ORBIT - image

PN -  JP2004294541 A 20041021 [JP2004294541]
 TI - (A) HEAT FIXING DEVICE AND IMAGE FORMING APPARATUS
 PA - (A) BROTHER IND LTD
 IN - (A) SENDA SEIICHI
 AP - JP2003083496 20030325 [2003JP-0083496]
 PR - JP2003083496 20030325 [2003JP-0083496]
 IC - (A) F16C-013/00 G03G-015/20
 STG - (A) Doc. Laid open to publ. Inspec.
 AB - PROBLEM TO BE SOLVED: To provide a heat fixing device which effectively prevents wrinkles of a fixing medium and to provide an image forming apparatus having the heat fixing device.
 SOLUTION: In the direction of conveyance of paper 3, a difference between the outside diameter DP2c of the middle of the second pressure roller serving as a second pressure roller 45 of an inverted crown shape which is firmly pressed to a heat roller 42 on the upstream side and the outside diameter DP2e of each end of the second pressure roller is made larger than a difference between the outside diameter DP1c of the middle of the first pressure roller serving as a first pressure roller of an inverted crown shape firmly pressed to the heat roller 42 on the upstream side and the outside diameter DP1e of each end of the first pressure roller. Thus, a difference in amount of conveyance of paper 3 between the axial middle and each axial end of the second pressure roller 45 is made smaller than that of the first pressure roller 44 so that second conveyance force X2 applied from the second pressure roller 45 is made greater than that of the first pressure roller 44. This restricts an increase in wrinkles made toward the widthwise middle of the paper 3.
 COPYRIGHT: (C)2005,JPO&NCIPI
 UP - 2004-47

Priority Document

2 / 2 PLUSPAT - ©QUESTEL-ORBIT - image

PN -  US2004190956 A1 20040930 [US20040190956]
 TI - (A1) Thermal fixing device and image forming apparatus
 PA - (A1) BROTHER IND LTD (JP)
 PA0 - Brother Kogyo Kabushiki Kaisha; Nagoya-shi, [JP]
 IN - (A1) SENDA SEIICHI (JP)
 AP - US80615904 20040323 [2004US-0806159]
 PR - JP2003083496 20030325 [2003JP-0083496]
 IC - (A1) G03G-015/20
 PCL - ORIGINAL (O) : 399328000
 DT - Basic
 STG - (A1) Utility Patent Application published on or after January 2, 2001
 AB -
 A thermal fixing device includes: a heating member configured to be in contact

with a fixation medium; a first pressing member disposed to face the heating member and applies a force directed toward both sides of the fixation medium in a direction orthogonal to a conveyance direction of the fixation medium by pressing the fixation medium to the heating member; and a second pressing member disposed to face the heating member at a position downstream in the conveyance direction with respect to the first pressing member and applies a force, which is larger than the force of the first pressing member, directed toward both sides of the fixation medium in a direction orthogonal to the conveyance direction.

UP - 2004-40

Search statement 2

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(FILE 'HOME' ENTERED AT 13:20:38 ON 09 JUN 2005)

FILE 'JAPIO, INPADOC' ENTERED AT 13:24:09 ON 09 JUN 2005

E JP2003-083496/AP,PRN

L1

3 S E3-E4

L1 ANSWER 1 OF 3 JAPIO (C) 2005 JPO on STN
AN 2004-294541 JAPIO
TI HEAT FIXING DEVICE AND IMAGE FORMING APPARATUS
IN SENDA SEIICHI
PA BROTHER IND LTD
PI JP 2004294541 A 20041021 Heisei
AI **JP 2003-83496** (JP2003083496 Heisei) 20030325
PRAI **JP 2003-83496**20030325
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2004
AB PROBLEM TO BE SOLVED: To provide a heat fixing device which effectively prevents wrinkles of a fixing medium and to provide an image forming apparatus having the heat fixing device.
SOLUTION: In the direction of conveyance of paper 3, a difference between the outside diameter DP2c of the middle of the second pressure roller serving as a second pressure roller 45 of an inverted crown shape which is firmly pressed to a heat roller 42 on the upstream side and the outside diameter DP2e of each end of the second pressure roller is made larger than a difference between the outside diameter DP1c of the middle of the first pressure roller serving as a first pressure roller of an inverted crown shape firmly pressed to the heat roller 42 on the upstream side and the outside diameter DP1e of each end of the first pressure roller. Thus, a difference in amount of conveyance of paper 3 between the axial middle and each axial end of the second pressure roller 45 is made smaller than that of the first pressure roller 44 so that second conveyance force X2 applied from the second pressure roller 45 is made greater than that of the first pressure roller 44. This restricts an increase in wrinkles made toward the widthwise middle of the paper 3.
COPYRIGHT: (C)2005,JPO&NCIPI

AN 2004-294541 JAPIO
TI HEAT FIXING DEVICE AND IMAGE FORMING APPARATUS
IN SENDA SEIICHI
PA BROTHER IND LTD
PI JP 2004294541 A 20041021 Heisei
AI **JP 2003-83496** (JP2003083496 Heisei) 20030325
JP 2003-8349620030325
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2004
IC ICM G03G015-20
ICS F16C013-00
AB PROBLEM TO BE SOLVED: To provide a heat fixing device which effectively prevents wrinkles of a fixing medium and to provide an image forming apparatus having the heat fixing device.
SOLUTION: In the direction of conveyance of paper 3, a difference between the outside diameter DP2c of the middle of the second pressure roller serving as a second pressure roller 45 of an inverted crown shape which is firmly pressed to a heat roller 42 on the upstream side and the outside diameter DP2e of each end of the second pressure roller is made larger than a difference between the outside diameter DP1c of the middle of the first pressure roller serving as a first pressure roller of an inverted crown shape firmly pressed to the heat roller 42 on the upstream side and the outside diameter DP1e of each end of the first pressure roller. Thus, a difference in amount of conveyance of paper 3 between the axial middle and each axial end of the second pressure roller 45 is made smaller than that of the first pressure roller 44 so that second conveyance force X2 applied from the second pressure roller 45 is made greater than that of the first pressure roller 44. This restricts an increase in wrinkles made toward the widthwise middle of the paper 3.
COPYRIGHT: (C)2005,JPO&NCIPI

Priority document

L1 ANSWER 2 OF 3 INPADOC COPYRIGHT 2005 EPO on STN

LEVEL 1

AN 249478229 INPADOC ED 20041125 EW 200448 UP 20050217 UW 200507
TI HEAT FIXING DEVICE AND IMAGE FORMING APPARATUS.
IN SENDA SEIICHI
INS SENDA SEIICHI
PA BROTHER IND LTD
PAS BROTHER IND LTD
TL English
DT Patent
PIT JPA2 DOCUMENT LAID OPEN TO PUBLIC INSPECTION
PI JP 2004294541 A2 20041021
AI JP 2003-83496 A 20030325
PRAI JP 2003-83496 A 20030325 (EDPR 20041007)

LEVEL 1

AN 249478229 INPADOC ED 20041125 EW 200448 UP 20050217 UW 200507
TI HEAT FIXING DEVICE AND IMAGE FORMING APPARATUS.
IN SENDA SEIICHI
INS SENDA SEIICHI
PA BROTHER IND LTD
PAS BROTHER IND LTD
TL English
DT Patent
PIT JPA2 DOCUMENT LAID OPEN TO PUBLIC INSPECTION
PI JP 2004294541 A2 20041021
AI JP 2003-83496 A 20030325
PRAI JP 2003-83496 A 20030325 (EDPR 20041007)
ICM (7) G03G015-20
ICS (7) F16C013-00

L1 ANSWER 3 OF 3 INPADOC COPYRIGHT 2005 EPO on STN

LEVEL 1

AN 243395671 INPADOC ED 20041007 EW 200441 UP 20041007 UW 200441
TI Thermal fixing device and image forming apparatus.
IN SENDA SEIICHI
INS SENDA SEIICHI
INA JP
PA BROTHER KOGYO KABUSHIKI KAISHA
PAS BROTHER IND LTD
PAA JP
TL English
DT Patent
PIT USAA PATENT APPLICATION PUBLICATION (PRE-GRANT)
PI US 2004190956 AA 20040930
AI US 2004-806159 A 20040323
PRAI JP 2003-83496 A 20030325 (EDPR 20041007)
AB A thermal fixing device includes: a heating member configured to be in contact with a fixation medium; a first pressing member disposed to face the heating member and applies a force directed toward both sides of the fixation medium in a direction orthogonal to a conveyance direction of the fixation medium by pressing the fixation medium to the heating member; and a second pressing member disposed to face the heating member at a position downstream in the conveyance direction with respect to the first pressing member and applies a force, which is larger than the force

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of the first pressing member, directed toward both sides of the fixation medium in a direction orthogonal to the conveyance direction.

LEVEL 1

AN 243395671 INPADOC ED 20041007 EW 200441 UP 20041007 UW 200441
TI Thermal fixing device and image forming apparatus.
IN SENDA SEIICHI
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PAS BROTHER IND LTD
PAA JP
TL English
DT Patent
PIT USAA PATENT APPLICATION PUBLICATION (PRE-GRANT)
PI US 2004190956 AA 20040930
AI US 2004-806159 A 20040323
PRAI **JP 2003-83496** **A 20030325** **(EDPR 20041007)**
ICM (7) G03G015-20
NCL 399328

SYSTEM:OS - DIALOG OneSearch

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File 89:GeoRef 1785-2005/May B2
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*File 350: For more current information, include File 331 in your search. Enter HELP NEWS 331 for details.

File 347:JAPIO Nov 1976-2005/Feb(Updated 050606)
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Set	Items	Description
S1	2105	AU=(SENDA, S? OR SENDA S?)
S2	12	S1 AND (THERMOL? OR THERMAL? OR PREHEAT? OR MELT? OR FUSE? OR FUSING? ? OR FUSION?) (2N) (FIXING OR FIXAT?)
S3	12	RD (unique items)
S4	2093	S1 NOT S3
S5	2	S4 AND (HEAT? OR WARM? OR HOT? OR CALEFACT? OR TORREFACT? - OR PYROL? OR SINTER? OR CALCIN? OR AUTOCLAV?) (2N) (FIXING OR F- IXATING)
S6	2	RD (unique items)
S7	2091	S4 NOT S5
S8	0	S7 AND ((HIGH??? OR HEIGHTEN? OR RAIS? OR INCREAS? OR ELEV- AT?) () (TEMPERATUR? OR CELSIUS OR DEGREE? ?)) (2N) (FIXING OR FI- XATING)
S9	3	S7 AND LASER(2N)PRINT?
S10	3	RD (unique items)
S11	2088	S7 NOT S9
S12	0	S11 AND CONVEYANCE(2N) (DIRECTION? OR PAPER? ?)
S13	6	S11 AND (HEAT? OR WARM? OR HOT? OR CALEFACT? OR TORREFACT? OR PYROL? OR SINTER? OR CALCIN? OR AUTOCLAV? OR PRESS????) (2N-) (MEMBER? ? OR PART? ?)
S14	6	RD (unique items)
S15	8774	(THERMOL? OR THERMAL? OR PREHEAT? OR MELT? OR FUSE? OR FUS- ING? ? OR FUSION?) (2N) (FIXING OR FIXAT?)
S16	18342	(HEAT? OR WARM? OR HOT? OR CALEFACT? OR TORREFACT? OR PYRO- L? OR SINTER? OR CALCIN? OR AUTOCLAV?) (2N) (FIXING OR FIXATING)
S17	406	((HIGH??? OR HEIGHTEN? OR RAIS? OR INCREAS? OR ELEVAT?) () (- TEMPERATUR? OR CELSIUS OR DEGREE? ?)) (2N) (FIXING OR FIXATING)
S18	26653	S15:S17
S19	231100	(HEAT? OR WARM? OR HOT? OR CALEFACT? OR TORREFACT? OR PYRO- L? OR SINTER? OR CALCIN? OR AUTOCLAV? OR PRESS????) (2N) (MEMBE- R? ? OR PART? ?)
S20	56519	PRESS? (2N) ROLLER? ?
S21	283316	S19:S20
S22	1118481	(FIXAT? OR FIXING) (2N) (MEDIUM OR WRINKE? ?) OR FIXAT? OR F- IXING
S23	141	ORTHOGONAL? (2N) (FIXAT? OR FIXING)
S24	14185	CONVEYANCE(2N) (DIRECTION? OR PAPER? ?)
S25	54361	IC=(F16C-013/00 OR G03G-015/20)
S26	82090	FORCE?? (2N) (PRESS??? OR LARGER OR STRONGER)
S27	45712	LASER(2N)PRINT?
S28	406393	IMAG? (2N) FORM?
S29	5488	S18 AND S21
S30	5488	S29 AND S22
S31	0	S30 AND S23
S32	84	S30 AND S24
S33	79	S32 AND S25
S34	15	S33 AND S27
S35	15	RD (unique items)
S36	64	S33 NOT S34
S37	50	S36 AND S28
S38	50	RD (unique items)
S39	4	S38 AND ORTHOGONAL?
S40	4	RD (unique items)
S41	46	S38 NOT S39
S42	4	S41 AND S15
S43	42	S41 NOT S42

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S44	42	S43 AND S16
S45	0	S30 AND S23
S46	50	S30 AND ORTHOGONAL?
S47	46	S46 NOT S37
S48	46	S47 AND S22
S49	42	S48 AND S25
S50	4	S49 AND S27
S51	38	S49 NOT S50
S52	38	S51 AND S21
S53	2	S52 AND S26
S54	36	S52 NOT S53
S55	22	S54 AND S28
S56	22	RD (unique items)